

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of the claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for displaying a television video signal in a mobile terminal, comprising:

input means for generating a plurality of signals for control of a television mode of said mobile terminal;

control means responsive to said control signals from said input means for generating a plurality of commands for execution of said television mode and user data to be displayed when said television mode is executed;

a tuner for receiving a television signal of a selected channel;

a decoder for decoding the television signal received by said tuner to separate the television signal into said television video signal, an audio signal and synchronous signals;

video processing means for, in said television mode, converting said video signal from said decoder into digital video data, processing and storing the converted digital video data on a frame basis, outputting stored video data of a previous frame in a frame period and then outputting said user data; and

display means comprising a video data display area and a user data display area, said display means displaying said frame video data and user data from said video processing means respectively in said video data display area and user data display area,

wherein said video processing means comprises:

a first memory storing said user data;

a second memory storing said television video signal sequentially on a frame basis;

a third memory storing a previous frame of said frames stored in said second memory; and

memory controlling means that stores a current frame of said received video signal into said second memory, outputs a video signal of a previous frame stored in said third memory, and then outputs user data stored in said first memory upon completing the output of said video signal of said previous frame;

wherein said memory controlling means stores a new current frame into said second memory, and at the same time, prior to a corresponding new frame being stored into a second memory, stores into said third memory a frame stored in said second memory as a previous frame.

2. (Cancelled)

3. (Currently Amended) The apparatus as set forth in claim [[2]]1, wherein said user data stored in said first memory comprises information regarding a current time, information regarding a currently displayed channel, and menu associated soft key information.

4. (Currently Amended) The apparatus as set forth in claim[[2]]1, wherein said video processing means further comprises a format scaler for scaling a size of said video signal from said decoder to be displayable by said display means.

5. (Currently Amended) The apparatus as set forth in claim[[2]]1, wherein said video processing means further comprises an on-screen display (OSD) controller for designating, copying and displaying a desired area of said user data stored in said first memory.

6. (Currently Amended) The apparatus as set forth in claim[[2]]1, wherein:
said memory controller is adapted to output video data of a frame being displayed on said display means as a still picture in response to a capture key input; and
said control means is adapted to access said video data being output as said still picture.

7. (Currently Amended) The apparatus as set forth in claim [[2]]1, wherein said memory controller is adapted to rotate and output a picture being displayed on said display means in response to a rotate key input.

8. (Original) The apparatus as set forth in claim 7, wherein said memory controller is adapted to scale up and output said rotated and output picture.

9. (Cancelled)

10. (Currently Amended) The apparatus as set forth in claim 1[[9]], wherein said video processing means further comprises an on-screen display (OSD) controller for designating, copying and displaying a desired area of said user data stored in said first memory.

11. (Currently Amended) The apparatus as set forth in claim 1[[9]], wherein said video processing means further comprises an Inter Integrated Circuit (I2C) bus interface controller for transferring channel control data from said control unit to said tuner in an I2C communication manner.

12. (Currently Amended) A method for displaying a television video signal in a mobile terminal with a display unit, said display unit comprising a video data display area and a user data display area, said method comprising the steps of:

in a television mode, controlling a tuner to select a desired channel;
receiving a television video signal of the selected channel and converting the received video signal into digital video data;

scaling a size of said video data to a frame size; and

storing video data of a current frame received over said selected channel and user data corresponding to said selected channel in a memory, outputting video data of a previous frame stored in said memory to said video data display area of said display unit in a frame period and then outputting said user data stored in said memory to said user data display area of said display unit upon completing the output of said video data of said previous frame,
wherein the storing step comprises the steps of:

storing said user data into a first memory;

storing said television video signal into a second memory sequentially on a frame basis;

storing, into a third memory, a previous frame of said frames stored in said second memory upon said video signal being stored into a second memory sequentially on a frame basis,

storing, into said second memory, a video signal of a current frame that is output during said scaling step, at the same time, outputting video data of a previous frame stored in said third memory into a video data display area of said display means, and, then, outputting user data of said first memory into a display area of said user data upon completing the output of said video data of said previous frame,

wherein said outputting step stores a new current frame into said second memory and, at the same time, stores, into said third memory, a frame stored in a second memory as a previous frame prior to said current frame being stored.

13. (Previously Presented) The method as set forth in claim 12, wherein said storing of video data comprises in response to a copy command, copying a desired area of said user data stored in said memory and displaying the copied data area in said video data display area.

14. (Previously Presented) The method as set forth in claim 12, wherein said storing of video data comprises in response to a rotation command, rotating and scaling up a currently displayed picture and displaying the resulting picture on said display unit at a full screen size.

15. (Original) The method as set forth in claim 14, wherein the rotation is made by 90° or substantially 90°.

16. (Cancelled)

17. (Cancelled)

18. (Currently Amended) A method for displaying a television video signal in a mobile terminal with a display unit, said display unit comprising a video data display area and a user data display area, said method comprising the steps of:

displaying menus comprising a television mode in response to a menu selection;

in response to selection of said television mode, controlling a tuner to select a desired channel;

storing video data of a current frame received over the selected channel and user data corresponding to said selected channel in a memory, outputting video data of a previous frame stored in said memory to said video data display area of said display unit in a frame period and then outputting said user data stored in said memory to said user data display area of said display unit upon completing the output of said video data of said previous frame, said user data comprising menus of said television mode;

in response to selection of a screen capture menu, outputting a currently displayed picture as a still picture, outputting said still picture to a control unit of said mobile terminal to store the still picture, and then returning to said step of storing video data;

in response to selection of a screen adjustment menu, rotating and scaling up the currently displayed picture and displaying the resulting picture on said display unit at a full screen size and, in response to reselection of said screen adjustment menu, returning to said step of storing video data to display the original picture; and

in response to selection of an exit menu, exiting from said television mode and entering a communication mode.